Docket No.: 13173-00023-US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jochen Kumlehn

Application No.: National Phase of PCT/EP2004/007567

Confirmation No.: N/A

Filed: Concurrently Herewith

Art Unit: N/A

For: METHOD FOR THE PRODUCTION OF STABLY TRANSFORMED, FERTILE GRAMINEAE EMPLOYING AGROBACTERIUM-MEDIATED TRANSFORMATION OF ISOLATED GRAMINEAE ZYGOTES

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

Of the documents listed on the attached SB/08 are the documents cited in the International Search Report during the prosecution of international application no. PCT/EP2004/007567, which corresponds to the above referenced application. In accordance

with 37 CFR 1.97(b)(2), Applicants hereby submit these documents for the Examiner 's consideration. A copy of each document required under 37 CFR 1.98(a)(2) is enclosed.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such. Moreover, Applicants understand the Examiner will make an independent evaluation of the cited documents.

Applicants believe no fee is due. However, if a fee is due, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 13173-00023-US.

Respectfully submitted,
By Roberte Makowski

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Sheet 1 of 4

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First Named Inventor	Jochen Kumlehn
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket Number	13173-00023-US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-5,591,646	01-07-1997	Hudson et al.	
	AB*	US-6,300,543	10-09-2001	Cass et al.	
	AC*	US-2002/0178463	11-28-2002	Hiei et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	BA	WO-91/02071-A2	02-21-1991	Dekalb Plant Genetics		
	BB	WO-93/18168-A2	09-16-1993	Max-Planck-Gesellschaft Zur Förderung Der Wissenschaften E.V. et al.		
	BC	WO-94/00583-A1	01-06-1994	South Dakota State University		
	BD	WO-94/00977-A1	01-20-1994	Japan Tobacco Inc.		See US 2002/0178463 and US 5,591,646
	BE	WO-94/01999-A1	02-03-1994	Carlsberg Forskningscenter		
	BF	EP-0 672 752-B1	09-20-1995	Japan Tobacco Inc.		
	BG	WO-97/48814-A2	12-24-1997	Monsanto Company		
	BH	WO-98/01576-A1	01-15-1998	Pioneer Hi-Bred International Inc.		
	BI	WO-00/63398-A1	10-26-2000	Rhobio		
	BJ	WO-01/73084-A2	10-04-2001	Institut Für Pflanzengenetik Und Kulturpflanzenforschung		See Abstract

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	CA	Potrykus, I., "Gene Transfer to Plants: Assessment of Published Approaches and Results", Annu. Rev. Plant Physiol. Plant Mol. Biol., Vol. 42 (1991), pp. 205-225.	

Examiner Signature		Date Considered	

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First Named Inventor	Jochen Kumlehn
Art Unit	N/A
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	CB	Kumlehn, Jochen et al., "Differentiation of Isolated Wheat Zygotes into Embryos and Normal Plants", Planta, Vol. 205 (1998), pp. 327-333.	
	CC	Weeks, J. Troy et al., "Rapid Production of Multiple Independent Lines of Fertile Transgenic Wheat (*Triticum aestivum*)", Plant Physiol., Vol. 102 (1993), pp. 1077-1084.	
	CD	Wan, Yuechun et al., "Generation of Large numbers of Independently Transformed Fertile Barley Plants", Plant Physiol., Vol. 104 (1994), pp. 37-48.	
	CE	Rasco-Gaunt, Sonriza et al., "Procedures Allowing the Transformation of a Range of European Elite Wheat (*Triticum aestivum* L.) Varieties Via Particle Bombardment", Journal of Experimental Botany, Vol. 52, No. 357 (2001), pp. 865-874.	
	CF	Somers, David A. et al., "Fertile, Transgenic Oat Plants", Bio/Technology, Vol. 10 (1992), pp. 1589-1594.	
	CG	Christou, Paul et al., "Stable Transformation of Soybean Callus by DNA-Coated Gold Particles", Plant Physiol., Vol. 87 (1988), pp. 671-674.	
	CH	Frame, Bronwyn R. et al., "*Agrobacterium tumefaciens*-Mediated Transformation of Maize Embryos Using a Standard Binary Vector System", Plant Physiology, Vol. 129 (2002), pp. 13-22.	
	CI	Leduc, Nathalie et al., "Isolated Maize Zygotes *in Vivo* Embryonic Development and Express Microinjected Genes When Cultured *in Vitro*", Developmental Biology, Vol. 177 (1996), pp. 190-203.	
	CJ	Kumlehn, Jochen et al., "Zygote Implantation to Cultured Ovules Leads to Direct Embryogenesis and Plant Regeneration of Wheat", The Plant Journal, Vol. 12, No. 6 (1997), pp. 1473-1479.	
	CK	Holm, Preben B. et al., "Regeneration of Fertile Barley Plants from Mechanically Isolated Protoplasts of the Fertilized Egg Cell", The Plant Cell, Vol. 6 (1994), pp. 531-543.	
	CL	Kranz, Erhard et al., "*In Vitro* Fertilisation of Maize by Single Egg and Sperm Cell Protoplast Fusion Mediated by High Calcium and High pH", Zygote, Vol. 2 (1994), pp. 125-128.	
	CM	Kranz, Erhard et al., "In Vitro Fertilization with Isolated, Single Gametes Results in Zygotic Embryogenesis and Fertile Maize Plants", The Plant Cell, Vol. 5 (1993), pp. 739-746.	
	CN	Meinke, David W., "Perspectives on Genetic Analysis of Plant Embryogenesis", The Plant Cell, Vol. 3 (1991), pp. 857-866.	
	CO	Mogensen, H. Lloyd, "Double Fertilization in Barley and the Cytological Explanation for Haploid Embryo Formation, Embryoless Caryopses, and Ovule Abortion", Carlsberg Res. Commun., Vol. 47 (1982), pp. 313-354.	
	CP	Evans, D. A. et al., "Protoplast Isolation and Culture" in D. Evans et al., Editors, Handbook of Plant Cell culture, Macmillan Publishing Company, Vol. 1, 1983, pp. 124-176.	
	CQ	Kranz, E. et al, "In Vitro Fertilization of Single, Isolated Gametes of Maize Mediated by Electrofusion", Sex Plant Reprod., Vol. 4 (1991), pp. 12-16.	
	CR	Mejza, Stephen J. et al., "Plant Regeneration from Isolated Microspores of *Triticum aestivum*", Plant Cell Reports, Vol. 12 (1993), pp. 149-153.	
	CS	Köhler, F. et al., "Regeneration of Isolated Barley Microspores in Conditioned Media and Trials to Characterize the Responsible Factor", J. Plant Physiol., Vol. 121 (1985), pp. 181-191.	
	CT	Engell, Kirsten, "Embryology of Barley: Time Course and Analysis of Controlled Fertilization and Early Embryo Formation Based on Serial Sections", Nord. J. Bot., Vol. 9, No. 3 (1989), pp. 265-280.	
	CU	Töpfer, Reinhard et al., "Uptake and Transient Expression of Chimeric Genes in Seed-Derived Embryos", The Plant Cell 1 (1989), pp. 133-139.	
	CV	Gould, Jean et al., "Transformation of *Zea mays* L. Using *Agrobacterium tumefaciens* and the Shoot Apex", Plant Physiol., Vol. 95 (1991), pp. 426-434.	

Examiner Signature		Date Considered	

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	CW	Mooney, Pauline A. et al., "*Agrobacterium tumefaciens*-gene Transfer Into Wheat Tissues", Plant Cell, Tissue and Organ Culture, Vol. 25 (1991), pp. 209-218.	
	CX	Hayakawa, Takahiko et al., "Genetically Engineered Rice Resistant to Rice Stripe Virus, an Insect-Transmitted Virus", Proc. Natl. Acad. Sci. USA, Vol. 89 (1992), pp. 9865-9869.	
	CY	Wu, Yan et al., "Enzymatic Isolation of Viable Nucelli at the Megaspore Mother Cell stage and in Developing Embryo Sacs in *Nicotiana tabacum*", Sex Plant Reprod., Vol. 6 (1993), pp. 171-175.	
	CZ	Jürgens, Gerd et al., "Arabidopsis", in J.B.L. Bard, Ed., Embryos, Color Atlas of Development, Wolfe Publishing, London, pp. 7-21.	
	CA1	Potrykus, Ingo, "Gene Transfer to Cereals: An Assessment", Bio/Technology, Vol. 8 (1990), pp. 535-542.	
	CB1	Raineri, D. M. et al., "*Agrobacterium*-Mediated Transformation of Rice (*Oryza sativa* L.)", Bio/Technology, Vol. 8 (1990), pp. 33-38.	
	CC1	Hiei, Yukoh et al., "Efficient Transformation of Rice (*Oryza sativa* L.) Mediated by *Agrobacterium* and Sequence Analysis of the Boundaries of the T-DNA", The Plant Journal, Vol. 6, No. 2 (1994), pp. 271-282.	
	CD1	Ishida, Yuji et al., "High Efficiency Transformation of Maize (*Zea mays* L.) Mediated by *Agrobacterium tumefaciens*", Nature Biotechnology, Vol. 14 (1996), pp. 745-750.	
	CE1	Theunis, C. H. et al., "Isolation of Male and Female Gametes in Higher Plants", Sex Plant Reprod., Vol. 4 (1991), pp. 145-154.	
	CF1	Allington, P. M., "Micromanipulation of the Unfixed Cereal Embryo Sac", in The Experimental Manipulation of Ovule Tissues, Longman New York (1985), pp. 39-51.	
	CG1	Datta, Swapan K. et al., "Genetically Engineered Fertile Indica-Rice Recovered From Protoplasts", Bio/Technology, Vol. 8 (1990), pp. 736-740.	
	CH1	de la Pena, A. et al., "Transgenic Rye Plants Obtained by Injection DNA Into Young Floral Tillers", Nature, Vol. 325 (1987), pp. 274-276.	
	CI1	Paszkowski, Jerzy et al., "Direct Gene Transfer to Plants", The EMBO Journal, Vol. 3, No. 12 (1984), pp. 2717-2722.	
	CJ1	Davey, M. R. et al., "Transgenic Rice: Characterization of Protoplast-derived Plants and their Seed Progeny", Journal of Experimental Botany, Vol. 42, No. 242 (1991), pp. 1159-1169.	
	CK1	Fromm, Michael E. et al., "Stable Transformation of Maize After Gene Transfer by Electroporation", Nature, Vol. 319 (1986), pp. 791-793.	
	CL1	Datta, Swapan K. et al., "Embryogenesis and Plant Regeneration from Microspores of Both 'Indica' and 'Japonica' Rice (*Oryza sativa*)", Plant Science, Vol. 67 (1990), pp. 83-88.	
	CM1	Shillito, R. D. et al., "High Efficiency Direct Gene Transfer to Plants", Bio/Technology, Vol. 3 (1985), pp. 1099-1103.	
	CN1	Rhodes, Carol A. et al., "Genetically Transformed Maize Plants from Protoplasts", Science, Vol. 240 (1988), pp. 204-207.	
	CO1	Shimamoto, Ko et al., "Fertile Transgenic Rice Plants Regenerated From Transformed Protoplasts", Nature, Vol. 338 (1989), pp. 274-276.	
	CP1	Kranz, E. et al., "Angiosperm Fertilisation, Embryo and Endosperm Development in Vitro", Plant Science, Vol. 142 (1999), pp. 183-197.	
	CQ1	Holm, Preben Bach et al., "Transformation of Barley by Microinjection into Isolated Zygote Protoplasts", Transgenic Research, Vol. 9 (2000), pp. 21-32.	
	CR1	Fromm, Michael E. et al., "Inheritance and Expression of Chimeric Genes in the Progeny of Transgenic Maize Plants", Bio/Technology, Vol. 8 (1990), pp. 833-839.	
	CS1	Sanford, John C., "Biolistic Plant Transformation", Physiologia Plantarum, Vol. 79 (1990), pp. 206-209.	
	CT1	Vasil, Vimla et al., "Herbicide Resistant Fertile Transgenic Wheat Plants Obtained by	

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		Microprojectile Bombardment of Regenerable Embryogenic Callus", Bio/Technology, Vol. 10 (1992), pp. 667-674.	
	CU1	Vasil, Vimla et al., "Rapid Production of Transgenic Wheat Plants by Direct Bombardment of Cultured Immature Embryos", Bio/Technology, Vol. 11 (1993), pp. 1553-1558.	
	CV1	Sautter, C. et al., "Micro-Targeting: High Efficiency Gene Transfer Using a Novel Approach for the Acceleration of Micro-Projectiles", Bio/Technology, Vol. 9 (1991), pp. 1080-1085.	
	CW1	Gordon-Kamm, William J. et al., "Transformation of Maize Cells and Regeneration of Fertile Transgenic Plants", The Plant Cell, Vol. 2 (1990), pp. 603-618.	
	CX1	Christou, Paul et al., "Production of Transgenic Rice (*Oryza sativa* L.) Plants from Agronomically Important Indica and Japonica Varieties via Electric Discharge Particle Acceleration of Exogenous DNA Into Immature Zygotic Embryos", Bio/Technology, Vol. 9 (1991), pp. 957-962.	
	CY1	Becker, D. et al., "Fertile Transgenic Wheat from Microprojectile Bombardment of Scutellar Tissue", The Plant Journal, Vol. 5, No. 2 (1994), pp. 299-307.	
	CZ1	Luo, Zhong-xun et al., "A Simple Method for the Transformation of Rice Via the Pollen-Tube Pathway", Plant Molecular Biology Reporter Vol. 6, No. 3 (1988), pp. 165-174.	
	CA2	Du, J. et al. "Injection of Exogenous DNA into Young Floral Tillers of Wheat", Genetic Manipulation In Plants, Vol. 5, No.1 (1989), pp. 8-12.	
	CB2	Thomas, Terry L., "Gene Expression During Plant Embryogenesis and Germination: An Overview", The Plant Cell, Vol. 5 (1993), pp. 1401-1410.	

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